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“Do I See What the Market Does Not See?”: Counterfactual Thinking in Financial Markets

Ekatarina Svetlova *

Abstract: »“*Sehe ich etwas, was der Markt nicht sieht?*” *Kontrafaktisches Denken in den Finanzmärkten*«. Based on the study of counterfactual thinking in financial markets, the paper suggests a deviation from the standard definition of counterfactuals. Social psychology traditionally defines counterfactual thinking as the development of alternative versions of the past events. Two enhancements of this understanding are suggested in the paper: the contradicted facts are related to the future and are socially constructed. Thus, counterfactual thinking should be investigated not only as a common feature of the human mentality but also as an element of social life. It is an instrument to cope with the complexity of future events in social settings.

Keywords: counterfactual thinking, financial markets, portfolio management, future, predictions, social facts.

1. Introduction

Counterfactual thinking is not a new topic. It has been the subject of interests to different scientific fields for a long time. Philosophers dealt with counterfactual theories of causation and conditions of their truth. Historians disputed if counterfactual reasoning, i.e., mental change of the course of past events, is a productive tool for their science or is just distraction and entertainment. Social psychologists became especially interested in counterfactual research in the last decade and developed it to one of the fastest growing domains within their field. At the beginning of this research were publications by Kahneman and Tversky (1982) as well as by Kahneman and Miller (1986) who studied emotions activated by a re-thinking of already happened events as well as ways of re-explaining of such events. Those investigations prepared the ground for a vast spectrum of psychological research (see Roese and Olsen 1995 for overview).

Social psychology uses a narrow definition of counterfactual thinking. This definition is narrow for two reasons. First, it concentrates on counterfactual thinking as a process of evaluation of past outcomes. Roese (1997, 133ff) wrote for example: “I restrict the term counterfactual to alternative versions of the

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past. That is, counterfactuals do not refer to future prospects but only to negations of established facts.” Similarly, Johnson and Sherman (1990, 509) claimed: “Counterfactuals...are simply other possibilities to events that have happened or are happening.” According to these common definitions, counterfactual thinking means simply considering what would have been if a different action had been selected. In this process, people try to assess the potential of a past situation.

My second objection against the narrow definition of counterfactual thinking in social psychology is the focus on the individual development of alternatives. In psychological experiments subjects are confronted with stories and are asked to mutate one or another event that led to a known outcome. Those mental changes are undertaken by the experiment participants independent of each other in utter isolation. Consequently, the facts that subjects mentally alter are not the result of people’s communication and interaction but are given. For example, particular verbal versions of situations (the “route” version and the “time” version) were offered to subjects who had to complete “If only”-sentences (“If only Mr. Jones had taken a different route home”, “If only he had left the office later” and so on) (Kahneman/Tversky 1982). Those stories were constructed by scientists and presented to the experiment participants who could not influence them.

Research of this style was spread to the field of financial markets (Lundberg/Frost 1992; Bailey/Kinerson 2005; O’Curry Fogel/Berry 2006). This research is a part of the field of Behavioral Finance and is helpful to understand the individual psychological processes of counterfactual thinking in financial markets. At the same time, it can be demonstrated (and this is the purpose of the text at hand) that counterfactual thinking in financial markets goes beyond the narrow definition suggested by psychology. Investors’ activities are focused on the future and depend on decisions and actions of other market participants. In other words, classical psychological research ignores the future-oriented, social nature of the markets. For example, events such as price increases or falls are results of behavior and forecasting activities of many different actors. They depend on stories that circulate in the markets and are products of dispersed narrative activities. They are not given; they are social facts constructed and widespread in the markets. Performing counterfactual thinking, individual investors relate to facts of this kind and co-create them at the same time.

This is why I suggest having a look at counterfactual thinking from the Social Studies of Finance point of view. Representatives of this scientific field assert that understanding of financial markets requires more than investigations in Behavioral Finance which is rooted in individual psychology. The application of different social sciences as well as of their methods to financial markets is necessary. My suggestion is to use ethnography to investigate the orientation of market participants towards the future as well as the social nature of facts

that are contradicted in the process of counterfactual thinking. This investigation suggests the necessity of a wider definition of counterfactual thinking.

The analysis presented in this paper took place in a special area of the capital markets, namely, portfolio management. In section 2, the distinctive characteristics of portfolio managers as financial market participants will be described. It will be shown that forecasting and thus the development of alternative scenarios for the future is crucial for their activities in the markets. In section 3, I will present the data that were collected during the ethnographic field work and were used for the investigation. Then the usage of counterfactual thinking by portfolio managers in their everyday activities will be discussed in detail. Counterfactual thinking will be described as a plausibility check of mainstream (socially acknowledged) scenarios for the future. This description requires a wider understanding of counterfactual thinking that will be discussed in section 5.

2. Portfolio management

Before I specify the role of counterfactual thinking in the everyday activities of portfolio managers, I would like to describe briefly the task that portfolio managers deal with. Then it can be discussed how counterfactual thinking helps them to perform this task.

Portfolio managers are financial market professionals who invest the money of their clients in different assets, i.e., equities, bonds, derivatives and other financial instruments. Their goal is to earn the maximum return for a given risk profile. To balance return and risk they invest money not in a single stock or bond but in a group of financial instruments which is called portfolio. Portfolio is a diversified mix of securities. If the money of many investors is pooled in a portfolio, such a portfolio is called a mutual fund. The task of a portfolio manager is to decide which and how many securities to buy, as well as to watch and to adjust the portfolio over the course of time.

In case of an active fund manager the return of a portfolio should be better than the return of a fixed benchmark. It means active fund managers should be able to earn a positive active return. A particular market index such as the S&P500 or the STOXX 50 can serve as a benchmark. Indices contain different securities with particular weightings. To earn a positive active return portfolio managers have to deviate from the benchmark weightings. Otherwise, if they just replicate an index, they will achieve the index performance. Beating the benchmark means deviation from the benchmark.

This task requires an extraordinary forecasting ability. One has to compare investment alternatives to decide which of them to overweight or to underweight. To be able to do that portfolio managers have to forecast future rates of return; those forecasts are based on expected earnings or cash flows. If their expectations are favorable, they would overweight a particular security. In the

case of negative expectations, they will underweight. In other words, the successful construction of an active investment portfolio presupposes the forecast of the rates of return.

Forecasting is the crux of portfolio managers' activities. This is so because deviation from the benchmark should be based upon forecasting ability that is better than the ability of the market average, and is proven to be sustainable and not random. Otherwise, there is no reason to deviate from the structure of the benchmark.

If the crucial goal is forecasting, then the financial market experts have to develop scenarios for the future; their thinking is directed to the future. It is not specific for portfolio managers only, but for many other segments of financial markets as well and for the economy in general. Economic activities are future oriented: decisions about investments, credits, corporate management require an assessment of the future. In this context, we have to ask: Can counterfactual thinking be of importance in such a setting and help to perform the forecasting task better?

3. Data

The argument of this paper is based on research that was conducted in several German and Swiss asset management companies and banks during 2007 and the 1st half of 2008. The focus of inquiry was on decision making and forecasting activities of portfolio managers.

The data pool of the analysis encompasses twenty four guided interviews with investment professionals. The respondents work as mutual fund managers in Frankfurt/Main and in Zurich. The interviewed fund managers pursue predominantly an active investment strategy. Six of them are responsible for European blue chip portfolios, two for European small and mid-caps, four for emerging markets, two for tactical asset allocation, two for investments in bonds and three for structured products. Three fund managers are responsible for quantitative investments. Two interviews were conducted with a financial advisor and the owner of an independent investment company.

The duration of each of the twenty four in-depth interviews was about 60 minutes. Most of the interviews took place in person, and only one was conducted by telephone. All interviews were recorded and transcribed. The evaluation also included coding and categorizing (Corbin/ Strauss 2008).

Formal interviews were complemented by a 3-month participant observation that was conducted in the portfolio management department of a private Swiss investment bank in Zurich. The author completed some tasks in the department and participated directly in the investment practice. Participation in verbal discussions, such as internal and external investment meetings, morning meetings and informal talks on the floor, as well as in the practice of creating spreadsheets and presentations, provided additional insight into the practices of

the investors. The author could investigate how fund managers talk about the future, forecasts and expectations, and what views they act upon.

Though the sample of collected data cannot be asserted to be entirely representative, the author is convinced that it allows a first approximation to understanding investors' techniques in developing scenarios and dealing with the forecasting problem. One such technique is counterfactual thinking.

4. Counterfactual thinking as an analytical tool of portfolio managers

Now, it will be shown in detail how portfolio managers use counterfactual thinking to solve the forecasting problem. Forecasting in financial markets is a complex task. First of all, there are a large number of factors that influence the future development of securities' prices. In the case of equities, for example, prices depend on future payment streams produced by the company like earnings and dividends. They are affected by the so-called fundamental factors, e.g., profit situation, product range, market position, and management quality. There are also other factors, such as the macroeconomic conditions (interest rates, inflation, currency developments, etc.), political expectations (tax policies, state subsidies, political stability, etc.) as well as the psychology of the market players (their expectations, risk preferences, etc.). It is not only impossible to specify all variables; rather, it must always be anticipated that new factors are added, such as new products, take-over rumors, etc. All those factors influence returns of particular companies and markets in different ways.

One has to keep in mind that portfolio managers do not cover 3-5 companies. In the interviews, they reported that each of them has between 250 and 500 companies in the investment universe. The investment universe includes companies, in which portfolio managers can invest money. It means that they have to make forecasts for up to 500 companies.

Taking this fact into account, it is unrealistic to expect portfolio managers to analyze all of the companies and to estimate all of the influencing factors in detail. Portfolio managers are not able to build their own expectations for each company. They obviously need some simplification mechanisms that allow them to decide in situations when they cannot make a precise forecast. One such mechanism is counterfactual thinking. How do professional investors proceed in practice?

4.1 Investors think contrary to the facts. What are those facts?

Let us take an example: It is November 2007, the subprime crisis jeopardizes all investments in the financials. In the morning meeting, the head of the fund management department says "We still have the Royal Bank of Scotland in one of our portfolios. Should we keep it?" The question is directed to the responsi-

ble fund manager and requires a clear decision: to keep or to sell. The response of the fund manager is “I’ll take a closer look at it.” This “closer look” would mean that the fund manager makes a forecast for the expected return of the Royal Bank of Scotland (RBS).

However, he does not start to build his expectations from scratch. His first step in the decision process is a glance at the consensus estimates that are the result of the forecasting efforts of a special group of market participants, namely securities analysts. There is a pool of analysts who cover a particular company. Each analyst comes up with estimated earnings per share for the quarter, the year or the next fiscal year. A consensus estimate number is an aggregated forecast, i.e., an average or median of all individual forecasts made by analysts covering a particular stock. For example, if four analysts estimate next year’s earnings per share for a company at \$5.00, \$5.05, \$5.10, and \$4.60, the consensus estimate is \$4.94. This number indicates that the majority of the market expects the earnings per share to be close to \$5.00 on average and not much lower as one individual analyst suggests. The consensus estimate represents a mainstream view in the market.

Behind consensus expectations is usually a story which the market plays and which is reflected in the share price. This story is not told by just one market participant. First of all, a company’s management provides information on the earnings per share prospects. Investor relations communicate them to the market; analysts interpret the figures using models and doing research. As a result of those communication and interpretation efforts, an investment story emerges and spreads in the market. This story is reflected in the consensus estimates. For example, consensus numbers suggested in autumn 2007 that RBS will not have to make significant depreciations due to the subprime crisis. For the majority of the market participants, this was a widely accepted scenario for the development of this particular company; it was a fact.

However, this fact is not an event that happened in the past. It is a shared story that currently circulates in the market; it is a scenario that the majority accepts as the most possible scenario for the future. This scenario delivers a shared explanation of what is going on in the market. First of all, it delivers the explanation for the current price of the share. A shared market story like “RBS will not depreciate much” determines the actual price of RBS. Consensus represents the officially known information that is reflected in the security price quickly. Here is a characteristic statement of one portfolio manager:

Consensus represents the market... market price corresponds to the consensus very well (The fund manager, European Blue Chips, Zurich).

However, this insight should make all forecasts that circulate in the market uninteresting for fund managers.

I believe that the problem is not the impossibility of forecasting but the fact that the market reflects the forecasts. This is the point. Even if analysts and other market participants make good forecasts, the question occurs: How can I

use them? I cannot use them because forecasts in the free markets are directly reflected in the price. (The quantitative fund manager, Frankfurt/Main)

Forecasts that are reflected in the price are useless for the decision making of fund managers. As described above, the overall goal of fund managers is to earn a positive active return, i.e., to deviate from the market to achieve better performance. When the consensus forecast represents the market, it delivers information about the point from which the fund manager has to deviate. But by acting upon consensus forecasts, the fund manager would miss his goal.

Every fund manager watches consensus. But he doesn't make money with it. He makes money only when he deviates from consensus. For this purpose he must know what consensus is. (The quantitative fund manager, Frankfurt/Main)

To know consensus does not mean to know only a particular number (for example, EPS 2008 for Royal Bank of Scotland is 70 Pence), but to know which scenario is already in the price. The next step is to decide how to deviate from the consensus story successfully. For this purpose, portfolio managers use consensus estimates as point of departure and build their own forecasts. Their expectations should be better than those of the market.

First of all we look what the market reflects in the price. It is useless for me to say "we have a positive development now": when the market has already priced this development in, I cannot create any added value. One can generate an added value only when he makes a non-consensus call... You have to make a decision which deviates from the majority. (The head of the department tactical asset allocation, Frankfurt/Main)

Therefore, the task of a fund manager is to predict rates of return differently from the majority of forecasters. To deal with this problem portfolio managers use counterfactual thinking.

4.2 Counterfactual thinking as plausibility check

Let me illustrate the use of counterfactual thinking by means of the already mentioned example: the analysis of the RBS in November 2007. The portfolio manager had a "closer look" at the consensus estimates. He reported:

I didn't try to estimate earnings for the whole bank. I made a part-estimate for the depreciation requirements. Then I adjusted consensus estimates. That is very simple: You see that the company should earn, according to consensus estimates, 70 pence per share. There are no depreciations priced in. I look at the financial statement, analyze the structure of the assets and see the possibility for additional depreciation in the amount of 15 pence per share. In this way I arrive at the earnings forecast of 55 pence per share.

The portfolio manager simplified his task significantly: He didn't analyze all divisions of the bank, but identified the depreciation as the key factor for the share price in this phase of the market. He assumed that all other variables reflected in the consensus remained constant (as *ceteris paribus*). Then, he asks

himself “Do I have a different opinion about this key price driver than the market?” This is a counterfactual question. The investor undoes the scenario that is widely accepted in the market, and develops his own alternatives by mentally changing one element of it, namely depreciation. In other words, he asks “Is the market wrong about this particular assumption? What do I see differently?” He conducts the counterfactual thought experiment of the kind “What if RBS will have to depreciate more than the market assumes? What would it mean for the valuation of the assets and for the share price?”

The portfolio manager described his forecasting process as a plausibility check:

I downloaded the numbers and build my own expectations for the Royal Bank of Scotland. I contemplated if the market expectations are plausible. What I did is the plausibility check of the market expectations

Instead of delivering a point forecast or defining all possible scenarios, the fund manager checks the plausibility of the one known scenario, i.e., the market scenario that is accepted as a conventional wisdom. Counterfactual thinking structured as a plausibility check is a technique to deal with the high complexity of the market. It makes the task of a simultaneous prediction of returns of many companies and markets manageable. It allows the portfolio manager not to arrive at exact predictions of earnings or dividends, but just to predict what the market does not know or sees wrongly yet. This is one of the most important steps on the way to an investment decision: to keep or to sell the share. In our example, the counterfactual thought experiment suggests that there is still room for a negative surprise, i.e. for more depreciation due to the subprime crisis. The portfolio manager decided that the current market price was too high and sold the RBS stock.

To sum up: Consensus estimates represent the accepted majority view in financial markets. They are facts which are already reflected in the market price and do not disclose any interesting investment opportunities. Financial market professionals regularly question the mainstream scenarios because they can make money only by deviating from them. They use counterfactual thinking for this purpose: they mentally alter one aspect of the mainstream story, i.e. check the plausibility of this aspect. In this way, they arrive at the investment decision. That is why counterfactual thinking is one of the essential analytical instruments in the financial markets and not at all entertainment or distraction. It makes the investors’ task of prediction manageable, helps them to explore possible alternatives and to invest effectively.

5. Plea for a wider definition of counterfactual thinking

Counterfactual thinking as a plausibility check is an important tool for investors in financial markets. Professional investors assess the potential of the future, not of the past. They do it not in isolation from each other but in social

settings. This obviously requires a wider definition of counterfactuals than the one accepted within social psychology.

At the same time, the above-mentioned work of Roese and Johnson/Sherman already imply the possibility of a wider understanding of the counterfactual thinking. For example, Roese (1997, 133) uses also a more general definition: "The term *counterfactual* means, literally, contrary to the facts." When people think counterfactually, they take facts and go beyond them to develop alternative scenarios and to encompass other possibilities. Those facts do not have to be past events, i.e. some known historical facts like "Napoleon lost the battle of Waterloo" or "The first human being in outer space was Russian". Johnson and Sherman (1990, 509) suggest: "It may even be useful to think about counterfactuals to the future if a particular future seems so likely that it is virtually accepted as truth", or, in terms of Roese (1997, 133), counterfactuals refer to "negations of established facts". Established facts could be the widely accepted stories which describe future events and circulate within society or in the market.

As I already mentioned, stories in psychological experiments are constructed by scientist; they are fixed. Within society or in the markets, however, stories constantly develop further; they are products of narrative activities of many different actors. In the case of financial markets, stories are created by analysts, investors, representatives of the companies, and politicians. Such narratives can be considered as facts of a special kind, especially if they are accepted by a majority. At this point, we have connections to conspiracy theories. Conspiracy theorists contradict what the mainstream accepts as "facts" and on this basis develop alternative explanations for past or contemporary events. They think contrary to the known facts. The nature of those facts is, however, very specific: Often historians know only the "stories" that are conveyed, not the "hard facts", i.e. not the events, not what really happened. Narratives are sometimes the only facts they have. Arguing against a conventional wisdom, conspiracy theories argue against the widely accepted stories as facts and arrive at alternative explanations. Likewise, portfolio managers contradict the mainstream scenarios, produce their own predictions and arrive at decisions.

The social nature of market narratives cannot be overlooked. Consensus estimates and related stories are not the result of an individual effort of a particular analyst. Numbers and stories are communicated and spread in the market, and mutual acceptance makes them to facts. They might be considered as social facts in terms of John Searle (1995): They are not a matter of individual perception or opinion; they are commonly accepted and thus are a part of reality. According to Searle, social facts have brutal facts (for example, an actual fundamental development of a company) as well as mental facts (opinions of individual analysts) behind them. However, consensus estimates as social facts are constructed "on top of brute physical facts" (Searle 1995, 35); they are the

result of collective intention of the group of investors that use them. Social facts are often results of performative speech acts under particular conditions (Austin 1992). They can be considered as “established facts” in the definition of Roese above.

The acceptance of narratives as facts that might be mentally contradicted would be one possible expansion of the definition of counterfactual thinking. The other expansion is related to it: Stories need not refer to the past or the present only; they can deal with the future. In the financial markets, they are the collectively constructed predictions.

It should be mentioned that there is already a discussion about the usage of counterfactual reasoning to describe future alternatives. Psychologists suggest that counterfactual thinking has a preparative function: While people explore alternatives to the occurred events, they learn about causalities and prepare themselves for better decision making in the future (Roese/Olson 1995, Johnson/Sherman 1990). “Counterfactual generation can prepare us for maintaining our beliefs in the future; for coping with an uncertain, unexpected, or stressful future; and for paving the way for changing in the future” (Johnson/Sherman 1990, 509). There are investigations which demonstrate that people predict better when they use counterfactual thinking (Tetlock 2005; Hoch 1985). It can be shown, for example, that if the subjects of an experiment are asked to develop a scenario and contrary reasons simultaneously, i.e. if “they are explicitly instructed to consider the *counterfactual*, that is, a reason why they might be wrong” (Hoch 1985, 721), they demonstrate an increased accuracy of predictions.

Portfolio investors also develop contrary arguments for a mainstream scenario about the future, asking where analysts can be wrong. This procedure allows them not only to make better predictions (see, for example, Montier 2007, 99ff) but to predict and to decide at all. Portfolio managers check the plausibility of the future scenarios, mentally changing one or two of their aspects. They can conduct mental experiments of this kind for many companies simultaneously. It allows them to stay focused and to reduce the task of developing many scenarios to building an opinion about one or two key factors for the future of the company. In other words, investors use counterfactual thinking to cope with the complexity of future events in the market.

The two suggested enhancements of the understanding of counterfactual thinking – the reference to socially constructed narratives as facts and the explicit reference to the future – might open new ways for prospective research on the topic. Counterfactual thinking could be investigated then not only as a common feature of human mentality but also as an element of social life. Closer attention should be paid to the social nature of facts that are contradicted. If they are narratives, it is important to investigate who tells them and under what conditions as well as if they are performative or if they are results of performative speech acts. In general, considerations on the questions “What

are facts?”, “What is reality?” are crucial for further research. Those questions might be approached from a philosophical perspective. At the same time, social studies with their elaborated methodological apparatus might be useful and complement psychological research with its individual perspective. The same applies to the time dimension of counterfactual thinking. If it is not just about thinking contrary to past events, an in-depth analysis is required to understand what such “future facts” – to which counterfactual thinking is related – are, how they emerge or how they are constructed.

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